

CLAIMS

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	What is Clai	med is:
1	Call	A method of admitting calls over a network, comprising:
2		receiving a call request capable of affecting a network resource, the call
3	request defining a th	roughput requirement;
4		transmitting a throughput measurement request for the network resource;
5		receiving a throughput measurement response including a throughput
6	measurement corres	ponding to the network resource; and
7		transmitting a call admission response when the throughput measurement
8	at least substantially	matches the throughput requirement of the call request
1	2.	The method of claim 1, further comprising selecting one or more network
2	resource as a resource	ce candidate for use in the requested call.
1	3.	The method of claim 1, wherein the selecting one or more network
2	resource is based on	the call admission response.
1	4.	The method of claim 1, wherein the selecting one or more network
2	resources is determine	ned by usage policy of a policy server.
1	5.	The method of claim 1, wherein the throughput requirement relates to a
2	perceptible quality o	f service.
1	6.	The method of claim 1, wherein the throughput requirement is specified in
2	a packet header.	

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1	7.	The method of claim 1, wherein the throughput requirement complies with
2	Resource Reservatio	n Protocol (RSVP).
1	8.	The method of claim , wherein the throughput requirement complies with
2	Diffserv Protocol.	
1	9.	The method of claim 1, wherein the throughput requirement complies with
2	MultiProtocol Label	Switching (MPLS) Protocol.
1	10.	The method of claim 1, wherein the call request complies with Session
$\sqrt{2}$	Initiation Protocol.	
1	11.	The method of claim 1, further comprising ranking the network resource
2	according to a merit	rating, the merit rating being based on the throughput measurement of the
3	network resource.	
1	12.	The method of claim 11, further comprising selecting resources according
2	to the merit rating.	\ \
1	13.	The method of claim 1, further comprising monitoring usage of at least
2	one of the network re	esources.
1	14.	The method of claim 1, wherein the throughput measurement request
2	comprises at least on	e trace packet.
1	15.	The method of claim 1, wherein the throughput measurement request
2	comprises a trace rou	ite.
1	16.	The method of claim 15, wherein the trace route comprises a list of
2	network resources.	

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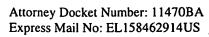
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quality of service based on the determined condition of the network resource.

The method of claim 23, further comprising determining an expected

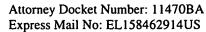


1	27.	The method of claim 1, further comprising performing call admission
2	control to accept or de	eny the call request.
1	28.	The method of claim 27, wherein performing call admission control is
2	based on usage of a li	nk in the network.
1	29.	The method of claim 27, wherein at least two terminals are defined in at
2	least two communitie	s coupled by a link in the network, and wherein performing call admission
3	control includes perfe	orming call admission control based on a policy for the link between the
4	communities.	
1	30.	The method of claim 29, further comprising bypassing the call admission
2	control within at least	one community.
1	31.	The method of claim 1, wherein one of the call request, the throughput
2	measurement, the thro	oughput measurement request, the throughput measurement response and
3	the call admission res	ponse is communicated over a data bus.
1	32.	An apparatus for admitting calls over a network, comprising:
2		a receiver for receiving a call request capable of affecting a network
3	resource, the call requ	nest defining a throughput requirement
4		a transmitter for transmitting a throughput measurement request for the
5	network resource;	
6		a receiver for receiving a throughput measurement response including a
7	throughput measurem	ent corresponding to the network resource and
8		a transmitter for transmitting a call admission response when the
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9	throughput measurer	ment at least substantially matches the throughput requirement of the call
10	request.	
1	33.	The apparatus of claim 32, further comprising a selector to select one or
2	more network resour	rce as a resource candidate for use in the requested call.
1	34.	The apparatus of claim 33, wherein the selector is adapted to select one or
2	more network resour	ce based on the call admission response.
1	35.	The apparatus of claim 33, wherein the selector is adapted to select one or
$\frac{1}{2}$	more network resour	ce based on a usage policy of a policy server.
1	36.	The apparatus of claim 32, wherein the throughput requirement relates to a
2	perceptible quality o	f service.
1	37.	The apparatus of claim 32, wherein the throughput requirement is
2	specified in a packet	header.
1	38.	The apparatus of claim 32, wherein the throughput requirement complies
2	with Resource Reser	vation Protocol (RSVP).
1	39.	The apparatus of claim 32, wherein the throughput requirement complies
2	with Diffserv Protoc	ol.
1	40.	The apparatus of claim 32, wherein the throughput requirement complies
2	with MultiProtocol I	Label Switching (MPLS) Protocol.
1	41.	The apparatus of claim 32, wherein the call request complies with Session
2	Initiation Protocol.	

1	42.	The apparatus of claim 32, further comprising a controller adapted to rank
2	the network reso	ource according to a merit rating, the merit rating being based on the throughput
3	measurement of	the network resource.
1	43.	The apparatus of claim \$2, further comprising a selector to select the
2	network resource	e according to the merit rating.
	44.	The apparatus of claim 32, further comprising a monitor for monitoring
	usage of at least	one network resource.
	45.	The apparatus of claim 32, wherein the throughput measurement request
2	comprises at leas	st one trace packet.
	46.	The apparatus of claim 32, wherein the throughput measurement request
74 2 =	comprises a trace	e route.
1 1	47.	The apparatus of claim 32, further comprising a selector for selecting one
2 1	or more sizes of	a data packet as candidates for carrying audio data in the requested call.
<u> </u>	48.	The apparatus of claim 32, further comprising a selector for selecting an
2	alternative resou	arce as the network resource when the throughput measurement does not
3	substantially ma	tch the throughput requirement of the call request
1	49.	The apparatus of claim 48, wherein the alternative resource comprises a
2	switched telepho	one network.
1	50.	The apparatus of claim 48, wherein the alternative resource comprises a
2	dedicated comm	unications link interconnecting network resources.



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1 51. The apparatus of claim 32, further comprising a transmitter for 2 transmitting an alternative resource call admission response when the throughput measurement 3 does not substantially match the throughput requirement of the call request. 1 52. The apparatus of claim 32, further comprising a controller adapted to 2 determine a condition of the network resource 53. The apparatus of claim 52, wherein the controller adapted to determine a 1 condition of the network resource is further adapted to determine a delay in the throughput 2 measurement. The apparatus of claim 52, wherein the controller adapted to determine a 54. condition of the network resource is further adapted to determine a percentage of packet loss in 3 the network. The apparatus of claim 52, wherein the controller adapted to determine a 1 55. condition of the network resource is further adapted to determine an expected quality of service based on the determined condition of the network resource. The apparatus of claim 32, further domprising a call admission control 56. 1 2 device for accepting or denying the call request. The apparatus of claim 56, wherein the call admission control device is 1 57. 2 adapted to admit the call based on usage of a link in the network. 1 58. The apparatus of claim 56, wherein at least two terminals are defined in at

least two communities coupled by a link in the network, and wherein the call admission control

device performs call admission control based on a policy for the link between the communities.

	1	59.	The apparatus of claim 58, further comprising a bypass path for bypassing
	2	the call admission co	ntrol device within at least one community.
	1	60.	The apparatus of claim 32, wherein one of the call request, the throughput
	2	measurement, the thr	oughput measurement request, the throughput measurement response and
	3	the call admission re	sponse is communicated over a data bus.
	4	61.	An article including one or more machine-readable storage media
١	5	containing instruction	ns to manage calls within a telephony system, the instructions when
NA A	6	executed causing a co	ontroller to:
	7		receive a call request capable of affecting a network resource, the call
	8	request defining a thr	roughput requirement;
45 mg	9	•	transmit a throughput measurement request for the network resource;
	10		receive a throughput measurement response including a throughput
	11	measurement corresp	oonding to the network resource; and
	12		transmit a call admission response when the throughput measurement at
	13	least substantially ma	atches the throughput requirement of the call request.
	1	62.	A call establishment method comprising:
	2		transmitting a call request capable of affecting a network resource, the call
	3	request defining a thi	roughput requirement;
	4		receiving a throughput measurement request for the network resource;
	5		transmitting a throughput measurement response including a throughput
	6	measurement for the	network resource; and



	7		receiving a call admission response when the throughput measurement at
	8	least substantially ma	atches the throughput requirement of the call request
	1	63.	A call server comprising:
	2		means for receiving a call request capable of affecting a network resource
	3	the call request defin	ing a throughput requirement;
	4		means for transmitting a throughput measurement request for the network
	5	resource;	
dern ger ment it. is gran age, gent oned never seen a seen seen area dern tenth form them them mad tenth tenth	6		means for receiving a throughput measurement response including a
	7	throughput measurer	nent corresponding to the network resource; and
	8		means for transmitting a call admission response when the throughput
	9	measurement at least	substantially matches the throughput requirement of the call request.
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